Sleepy Hollow Detention Basin Retrofit Project

Sleepy Hollow Detention Basin Improvements: Existing
Source: cbec eco-engineering

PROJECT PURPOSE

The Sleepy Hollow detention basin fulfills its original design intentions for flood control, however there is tremendous potential to achieve more at this location to provide multiple benefits. This project will serve as a pilot/demonstration project for conversion of conventional detention basins into multi-use/benefit basins. The retrofit project will increase water quality benefits, enhance upland habitat, recharge the aquifer, and improve recreational/aesthetic opportunities for the surrounding community. With the incorporation of natural resources and improvements, the basin could also become an 'outdoor classroom' for the five schools located within a two-mile radius of the project site and for the community.

The project is funded through the State of California Department of Water Resources (DWR) Proposition 84 Implementation Grant as part of the American River Basin Integrated Regional Water Management Plan (IRWMP) Program with the Regional Water Authority (RWA) along with contributing funds from the City of Elk Grove.

BACKGROUND

The Sleepy Hollow Detention basin is a 6.3-acre detention basin located in a residential neighborhood in Elk Grove, CA. The detention basin was originally designed to manage stormwater runoff and provide flood control protection to the adjacent neighborhoods. The basin also integrates water quality treatment during small storm events. This basin is similar to many detention basins in the Sacramento urban area that were installed to serve new residential and commercial developments since the early 1990s.

Sleepy Hollow Detention Basin Improvements: Existing
Source: City of Elk Grove

KEY ASPECTS OF THE PROJECT

- Diversify and enhance the habitat for resident and migratory birds and other wildlife by adding several pools, vegetated islands and low flow channels.
- Lower the 10-year and 100-year storm elevation in the detention basin.
- Improve stormwater quality through biofiltration to store and treat runoff with grassy swales and wetlands.
- Provide educational opportunities for the community and school children with interpretive signs.
- Construct dry wells to maximize recharge of the underlying aquifer; and quantify the volume and quality of recharge.

With the current drought situation in California along with climate change, some scientists believe that California's future weather forecasts will be much drier than they have been in the past 150 years. [1]

Sleepy Hollow Detention Basin Improvements: A Vision - Pre-Concept
Source: cbec eco-engineering

CITY OF ELK GROVE

REGIONAL AND STATEWIDE SIGNIFICANCE

Many detention basins are weedy, unattractive areas which are primarily used for a single objective, flood control. Detention basins could be viewed and designed as multi-functional facilities that provide many economic, social and environmental benefits to a community. Future multi-functional detention basins will not only meet flood control requirements, but along with the integration of aquifer recharge, will provide promising opportunities to help increase underground storage of water. These basins should be considered as a valuable water resource management tool for the Sacramento region and also for the future of California's water.

REFERENCES: A discussion of the benefits of using the aquifer for water storage can be found at: h**ttp://waterinthewest.stanford.edu/**

1 B. Lynn Ingram, 2014, The West Without Water: What Past Floods, Droughts, and Other Climatic Clues Tell Us About Tomorrow, Reviewed at: **http://newscenter.berkeley.edu/2014/01/21/states-water-woes/.**

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